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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,547	12/26/2001	Guido Schmitz	215747US0	8308

22850 7590 05.13.2003

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EXAMINER

BISSETT, MELANIE D

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 05/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/025,547

Applicant(s)

SCHMITZ ET AL.

Examiner

Melanie D. Bissett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2-3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 21 is rejected under 35 U.S.C. 102(b) as being anticipated by BP Chemicals Limited.

3. BP discloses a multi-layered structure using an adhesive blend, where the adhesive comprises a graft polyolefin copolymer, a polyamide, and an optional polyolefin (abstract). The graft copolymer contains functional groups from an unsaturated carboxylic acid or derivative and is used in an amount of 1-99% by weight (p. 5 lines 2-7; 28-30). The polyamide is used in an amount of 5-90% by weight (p. 6 lines 31-33). Because of the breadth of the ranges given in the reference, it is the examiner's position that one of ordinary skill in the art would envision using 30-70 parts by volume of polyamide and 0.1-70 parts by volume of graft copolymer based on the teachings of BP.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 4-15, 17, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Betremieux et al.

6. Betremieux discloses a polymer blend comprising a polyamide and a polyolefin grafted with a dicarboxylic acid or anhydride (abstract). The materials are used to form tubes (col. 6 lines 10-12). One embodiment teaches a metal core covered by EPDM, the polyamide/polyolefin blend, and a polyamide polymer B (col. 6 lines 25-38). Thus, the reference teaches a structure binding a polyamide, a bonding agent, and a polyolefin material to an electrically conductive core. The examples show various ratios of polyamide to polyolefin in the blend material, including 50:50, 60:40, and 40:60. However, the reference does not suggest volume ratios of polyamide to modified polyolefin. Since the examples show that excess weight of either component is suitable for the invention, it is the examiner's position that it would have been prima facie obvious to use any volume ratio of components in the expectancy of equally improved adhesion to the desired substrates.

7. Regarding claims 4-12, it is noted that the claims only limit the polyamide-polyamide component of the Markush group presented in claim 1. In this case, a polyamide is chosen instead of a polyamine-polyamide copolymer. Thus, any limitations presented only to the polyamide-polyamide copolymer would be anticipated.

8. Claims 1, 4-13, and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsubishi.

9. Mitsubishi discloses a packing self-adhesive film having excellent cutting properties, transparency, and stickiness (abstract). The film comprises a core polyamide layer, adhesive layers comprising a polyamide and an acid-modified polyolefin resin, and polypropylene layers (abstract). The reference teaches that the polyamide should be used in an amount of 2-30% by weight [0029]. However, the reference does not seem to suggest amounts of polyamide and modified polyolefin by volume. It is the examiner's position that it would have been prima facie obvious to use any volume ratio of components necessary to optimize cutting properties, transparency, and stickiness.

10. Regarding claims 4-12, it is noted that the claims only limit the polyamide-polyamide component of the Markush group presented in claim 1. In this case, a polyamide is chosen instead of a polyamine-polyamide copolymer. Thus, any limitations presented only to the polyamide-polyamide copolymer would be anticipated.

11. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kohan et al.

12. Kohan discloses a blend of 50-90% by weight of polyamide with 10-50% by weight of a carboxylic acid-modified polyolefin copolymer (abstract). The blends have improved flex modulus, elongation, hydrolysis resistance, and toughness properties (col. 1 lines 29-41). However, the reference does not disclose the preferred amounts of components by volume. Since the reference teaches a broad range of weight ratios for the components, it is the examiner's position that it would have been prima facie

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obvious to use any volume ratio of components necessary to optimize flex modulus, elongation, hydrolysis resistance, and toughness properties.

13. Claims 1-15, 17, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Betremieux et al. in view of Oenbrink et al.

14. Betremieux applies as above, teaching the use of polyamide copolymers having polyamide and polyetherdiamine blocks in a blend component (col. 3 lines 3-59), but failing to mention polyamine-polyamide copolymers prepared using the applicant's claimed monomers. Oenbrink teaches graft copolymers suitable as a blend component made by reacting 0.5-25% by weight of a polyamine having at least 11 nitrogen atoms and an  $M_n$  of at least 500 g/mol with an equimolar combination of polyamide-forming monomers (abstract). Blends containing the graft copolymers have better processing performance and better compatibility with other polymers (col. 1 lines 37-45).

Preferably, the polyamine is used in an amount of 1.5-16% by weight and has a molecular weight of at least 800 g/mol (col. 1 lines 60-67). The amino group concentration of the graft copolymer is preferably from 100-2500 mmol/kg (col. 3 lines 56-59). It is the examiner's position that it would have been prima facie obvious to use the polyamine-polyamide copolymers of Oenbrink's invention in the blend composition of Betremieux to improve the processing performance and compatibility of the blend.

15. Claims 1-13 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsubishi in view of Oenbrink et al.

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16. Mitsubishi applies as above, teaching the use of polyamide blended with modified polyolefin but failing to mention polyamine-polyamide copolymers prepared using the applicant's claimed monomers. Oenbrink teaches graft copolymers suitable as a blend component made by reacting 0.5-25% by weight of a polyamine having at least 11 nitrogen atoms and an  $M_n$  of at least 500 g/mol with an equimolar combination of polyamide-forming monomers (abstract). Blends containing the graft copolymers have better processing performance and better compatibility with other polymers (col. 1 lines 37-45). Preferably, the polyamine is used in an amount of 1.5-16% by weight and has a molecular weight of at least 800 g/mol (col. 1 lines 60-67). The amino group concentration of the graft copolymer is preferably from 100-2500 mmol/kg (col. 3 lines 56-59). It is the examiner's position that it would have been prima facie obvious to use the polyamine-polyamide copolymers of Oenbrink's invention in the blend composition of Mitsubishi to improve the processing performance and compatibility of the blend.

17. Claims 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Betremieux et al. in view of Oenbrink et al. as applied to claims 1-15, 17, and 21 above, and further in view of Pfleger.

18. Betremieux and Oenbrink apply as above, teaching a pipe but failing to mention a corrugated pipe. Pfleger teaches a corrugated pipe used as a coolant line for automobiles (col. 1 lines 52-60) having an inner layer comprising EPDM and an outer layer of polyamide (col. 4 lines 21-25). Pfleger teaches that it is conventional to produce corrugated pipes because of their flexibility (col. 1 lines 36-42). Thus, it is the

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examiner's position that it would have been prima facie obvious to form a corrugated pipe from the invention of Betremieux and Oenbrink to provide a more flexible pipe suitable for use in automobiles.

19. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Betremieux et al. in view of Oenbrink et al. as applied to claims 1-15, 17, and 21 above, and further in view of Bertero et al.

20. Note: The phrase "adjoined by an additional elastomer layer" in claim 18 is somewhat unclear, since it could be interpreted to mean that the elastomer layer is a tie layer for the outermost layer. However, the examiner interprets claim 18 to limit the pipe of claim 15 to have one additional elastomer layer adjoined to the outermost layer of the three-layer composite, as supported in the specification on p. 16 lines 12-17.

21. Betremieux and Oenbrink apply as above, teaching a pipe but failing to mention a pipe covered by an elastomer layer. Bertero teaches a multi-layer pipe for conducting fuel comprising an inner layer including EPDM (col. 2 lines 21-28), a barrier layer of polyamide (col. 3 lines 16-32), and an outer cover layer of elastomeric material (col. 3 lines 53-64). It is the examiner's position that it would have been prima facie obvious to use an outer layer of elastomeric material in the invention of Betremieux and Oenbrink to serve as a "cover" or protective layer for the formed pipes.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie D. Bissett whose telephone number is (703) 308-6539. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

mdb  
May 5, 2003

James J. Seidleck  
Supervisory Patent Examiner  
Technology Center 1700